

Tobacco use, attitudes and cessation practices among healthcare workers of a city health department in Southern India

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ABSTRACT

Objective: To assess tobacco use, attitudes and cessation practices among healthcare workers of a municipal health department in southern India. **Materials and Methods:** We undertook a cross-sectional epidemiologic study to investigate 558 healthcare workers from three groups (doctors, auxiliary nurses and community link workers (LWs)) employed by the Bangalore city corporation in southern India. Outcomes included self-reported tobacco use status and attitudes (for all workers), and (for doctors) self-report of performance of “5-A” tobacco cessation interventions: Asking, advising, assessing, assisting, or arranging follow-up for tobacco control, in their client population. **Results:** Doctors reported higher tobacco use rates (6.9%) compared to LW (2%) and nurses (<1%) but were less interested in further tobacco control training (77%) compared to the others (>95%). Many doctors reported asking (100%) and advising (78%) about tobacco use but much fewer were assessing intention/motivation to quit (24%), assisting with quitting (19%), and arranging follow-up for quitting and relapse prevention (9%). **Conclusion:** Tailored training in tobacco control would enable doctors, nurses and outreach workers involved in primary healthcare delivery to be better equipped to deal with a major cause of morbidity and mortality among urban communities in the 21st century.

Keywords: Attitudes, cessation practices, healthcare workers, India, primary healthcare, tobacco use

Introduction

There is growing recognition that even though effective tobacco control interventions are available, they remain largely under-utilized in most low- and middle-income countries. Within the health sector, tobacco--dependence treatment efforts have focused predominantly on healthcare professionals such as physicians, dentists and specialists in India^[1] with the resultant accessibility of tobacco cessation services being mostly limited to those who seek such services in hospitals^[2,3] and not in primary healthcare facilities or in the community. With 41% of the population in southern India living in urban areas,^[4] and up to a fifth of them using tobacco in some form or other,^[5] healthcare workers in municipal primary healthcare services frequently encounter smokers and other tobacco users. However, tobacco use prevalence, cessation practices, and beliefs of these healthcare workers are less well known. In this paper, we describe tobacco use, attitudes and cessation practices

among healthcare workers of a municipal health department in southern India.

Materials and Methods

We undertook a rapid needs-assessment survey using a cross-sectional epidemiologic study design. The target population was 602 subjects from three healthcare worker groups: Physicians, auxiliary nurses and community link workers (LWs) employed by the Bangalore city corporation in southern India. A brief, self-administered, structured questionnaire was used to collect basic demographic information and practice characteristics followed by their self-reported tobacco use and attitude toward tobacco bans in public places. In addition, physicians' adherence to tobacco control guidelines suggested by the U.S. Public Health Services^[6,7] based on Prochaska's Transtheoretical Model of Behaviour Change was also assessed.^[8,9] Outcomes included self-reported tobacco use status, attitude toward tobacco ban, and self-reported performance of the “5 A's”: Asking, advising, assessing, assisting, or arranging follow-up for tobacco cessation.

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In addition, all were also asked about further interest in tobacco control training. Simple descriptive analysis was undertaken with chi-square (χ^2) for categorical variables and *t*-test/*F*-test for continuous variables using SPSS (version 16.0). A *P* value < 0.05 was considered statistically significant. Ethics approval was obtained from St John's Medical College Institutional Ethical Review Board and all participants provided written informed consent. The self-administered questionnaire was distributed to participants and collected after completion (about 20 min). Anonymity was respected.

Results

A total of 558 (93%) municipal healthcare workers were covered in this survey. Response rates were 96%, 97% and 63% among LWs, nurses and physicians, respectively. Proportion of males among physicians, auxiliary nurses and LWs was 22.5%, 6% and 0%, respectively ($\chi^2 = 66.7$; *df*=2; *P* < 0.0001) while mean (\pm standard deviation (S.D.)) age of physicians, nurses and LWs was 45.7 (\pm 10.1), 42.6 (\pm 11.9) and 36.4 (\pm 5.9) respectively (*F*-statistic = 42.5; *df* = 2; *P* < 0.0001). While all the physicians had completed graduate education, only 17% of nurses and 3.5% of LWs had completed graduate education. Mean (\pm S.D.) number of patients seen per day was 25 (\pm 12.6) by physicians, 35 (\pm 24.5) by nurses and 39 (\pm 18) by LWs (*F*-statistic = 19.5; *df* = 2; *P* < 0.0001).

Self-reported tobacco use among males and females was 6.3% and 2.0% respectively but this was not statistically significant ($\chi^2 = 1.3$; *df* = 1; *P* = 0.3). Among physicians, 9.5% (2/21) of females were tobacco users compared to 0% (0/8) of males; among nurses, 12.5% (1/8) of males were tobacco users compared to 0% (0/121) of females; and among LWs who were all females, 2.2% (8/359) were tobacco users.

Table 1 depicts attitude on tobacco bans and self-reported tobacco use among various categories of health workers. Nearly 8% of all healthcare workers were not in favor of complete tobacco bans in movie halls and restaurants. There was however no statistically significant difference by category of health workers (*P* = 0.25) or by tobacco-use status (*P* > 0.05; data not shown). Nurses (0.8%) and LWs (2.2%) reported relatively low tobacco-use prevalence as compared to physicians (7%); this difference was statistically significant for both smoking and smokeless tobacco.

Figure 1 shows clinical practice patterns of the physicians with regard to tobacco control in their patients. All physicians reported asking about tobacco use and the majority (78%) offered advice about quitting tobacco. However, far fewer physicians were assessing intention/motivation to quit, assisting with quitting, and arranging follow-up for quitting and relapse prevention (25%, 19% and 9%, respectively).

Lastly, a greater proportion of nurses (96%) and LWs (97%) evinced interest in additional tobacco control training as

Table 1: Attitude to bans and self-reported tobacco use among healthcare workers of Bangalore city corporation, 2012

Characteristics	Healthcare workers (%)			χ^2 ; df	P
	Physicians (n=40)	Auxiliary nurses (n=138)	Link workers (n=380)		
Attitudes*					
Tobacco ban in movie halls and restaurants					0.25
Yes	30 (94)	128 (96)	338 (91)	2.8; 2	
No	2 (6)	6 (4)	33 (9)		
Self-reported tobacco use*					
Smoking					0.04
Yes	2 (6.5)	1 (0.8)	4 (1.1)	6.5; 2	
No	29 (93.5)	128 (99.2)	355 (98.9)		
Smokeless tobacco					0.03
Yes	2 (6.9)	0	7 (1.9)	6.9; 2	
No	27 (93.1)	129 (100)	352 (98.1)		
Any tobacco use					0.12
Yes	2 (6.9)	1 (0.8)	8 (2.2)	4.3; 2	
No	27 (93.1)	128 (99.2)	351 (97.8)		

*Totals do not tally because of missing values

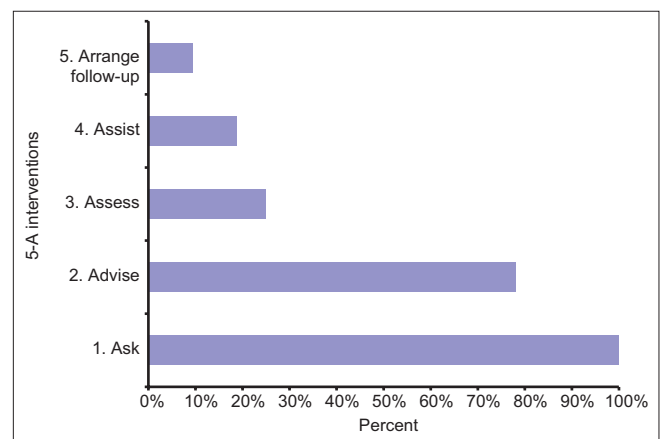


Figure 1: Proportion of physicians offering the "5-A" cessation services to tobacco users seen in clinical practice

compared to physicians (77%) ($\chi^2 = 25.1$; *df* = 2; *P* < 0.0001). Keenness in further tobacco control training was not linked to reported tobacco use status (*P* = 0.68).

Discussion

Primary care is an important context for promoting tobacco cessation. Major barriers to tobacco cessation in resource-limited settings such as India include low levels of awareness and healthcare seeking for assistance with quitting and the limited provision of smoking cessation interventions by physicians as part of routine care provision. Healthcare professionals have an important role to play in tobacco control especially in settings such as India given that health literacy is low and that other modes of education of the public such as pictorial warnings on tobacco packaging have been ineffective.^[10] At the individual and community levels, they can educate patients and families about

the harms of tobacco use and exposure to second-hand smoke, and help tobacco users overcome their addiction by following standard guidelines for routine clinical care^[6,7] or through formal tobacco cessation clinics.^[2,3] At the national and global levels, healthcare professionals can advocate for greater resources and policy attention to tobacco control efforts.

Our finding of an overwhelming majority of physicians, nurses and LWs in this city health department having favorable attitudes toward tobacco bans in public places such as movie halls and restaurants was encouraging. Similar findings have been noted in a study of students of the healthcare professions in the same city.^[11] Not surprising given these favorable attitudes, three fourth of physicians reported giving advice on quitting. A study of government medical college physicians in the southern state of Kerala had reported similar results as well.^[12] However, our data indicate that few physicians offer tailored advice or support for tobacco cessation; only about one in four assessed the severity of nicotine dependence or the intention to quit, and fewer than one in five offered concrete assistance with quitting using pharmacologic or non-pharmacologic therapies. Further in-depth qualitative research may help uncover the reasons underlying the limited provision of tobacco cessation interventions by this group and understand the political and economic dynamics of suboptimal policy adoption and implementation.^[13,14] Although more than three-fourths of physicians responded favorably regarding additional training in tobacco control, it was lower compared to that seen among nurses and LWs. A recent meta-analysis has shown that training health professionals to provide smoking cessation interventions had a measurable effect on professional performance in terms of helping patients to set a quit date and counselling of smokers, as well as on patient outcomes such as point prevalence abstinence and continuous abstinence.^[15] These findings suggest that provision of tobacco cessation services through Bangalore's municipal primary healthcare system may be enhanced by training frontline healthcare workers.

Tobacco-use rates among healthcare workers in our study was relatively low compared to that seen in other studies of healthcare workers in India^[16,17] and several other low- and middle-income countries.^[18] It was also lower than that seen in the subset of the general population that had completed similar post-secondary education in Karnataka.^[5] That said, tobacco use rates were higher among physicians compared to nurses in our study.

Selection bias and reporting bias are two limitations in surveys such as ours. The relatively low response rate among physicians in our study was a concern, though a review of the literature has shown that non-response bias may be less of an issue in health professionals' surveys than in surveys of the general public.^[19] Another limitation of our study was that self-reporting may have been susceptible to social desirability bias, with fewer female healthcare workers reporting tobacco use and all healthcare workers reporting tobacco control-friendly attitudes and practices. We attempted to minimize bias by using an anonymous self-administered questionnaire.

In summary, our study identifies an opportunity to substantially increase the reach of tobacco control services to urban low- and middle-income populations in India by mobilizing municipal primary healthcare workers. Healthcare workers, except physicians, reported relatively low tobacco-use prevalence, positive attitudes toward general tobacco control efforts such as bans in public places and interest in further tobacco control training. Dissemination of provider education and implementation of preventive services guidelines and tobacco cessation services in urban primary healthcare centres may provide an urgently needed fillip to tobacco control efforts in India and similar limited resource settings.

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